

Insight™

The optimized Insight libraries provide numerical signal processing functions for the Epiphany architecture

Function		Size	Cycles	GFlops 2.0 Peak (@1GHz)
FIR	real	896 by 16-taps	18,525	1.55
	complex		63,429	1.81
Radix-4 FFT	forward	1024	41,807	1.04
	inverse		43,661	1.00
Radix-2 FFT	forward	1024	64,677	0.80
	inverse		82,474	0.62
Matrix-matrix multiply	real	40 by 40 by 40	72,290	1.77
	complex	24 by 24 by 32	87,900	1.68
Matrix-vector multiply	real	40 by 40	4,580	0.70
	complex	24 by 24	3,927	1.17
Dot-product	real	1024	2,980	0.69
	complex		5,281	1.55
Vector-scale	real	1024	2,026	0.51
	complex		3,942	1.56
Vector-absolute sum	real	1024	3,439	0.60
	complex		6,757	0.61
Vector-absolute max	real	1024	8,271	
	complex		14,426	
Vector-swap	real	1024	4,699	
	complex		9,294	
Vector-copy	real	1024	2,393	
	complex		4,693	

Table 1. Insight library single-core performance [release 1.1]

Anemone floating-point FPGA co-processor

The Anemone floating-point FPGA co-processor is available from BittWare Inc. with 16 Epiphany cores. The Anemone is designed as a high-performance floating-point co-processor consuming ultra-low power.

The Insight libraries for the Epiphany architecture are produced by Paralant Ltd. [www.paralant.com] and sold by BittWare Inc. [www.bittware.com]



Paralant